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ABSTRACT

In Canada, as in other countries, there has been increasing interest in developing the employability skills of students during compulsory education. While the notion of certifying skills does not necessarily translate into greater interest in differentiating the high school credential, the number of credentials offered in Alberta high schools has grown in recent years. This paper examines the increased interest in credentialing the Alberta high school focusing on these trends and their probable effect. Theoretical influences behind the credentialing trend are outlined, and a number of academic and vocational credentials are described in terms of why they were introduced, enrollment patterns, students targeted, and students served. The concluding sections draw on theoretical writings to analyze credentialing initiatives and their effects. The examination suggests that introducing new vocational credentials to make the high school diploma more relevant for certain groups of students does little to challenge hierarchical social relations in spite of progressive rhetoric. Suggestions are made for making forms of closure based on high school credentials more equitable. (Contains 26 endnotes and 25 references.) (SLD)

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# "Credentialing the High School"

by

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**Credentialing the High School**

**Introduction**

Rhetoric around the need to improve education in order to improve Canada's economic competitiveness has been pervasive in recent decades. Government and employer groups have voiced interest in expanding the supply of higher order, technical, scientific, and professional skills. While traditionally, post-secondary institutions have been viewed as the appropriate site for such skills training, public sector constraint and restructuring has meant that there is greater interest in investments in compulsory education and on maximizing returns on these investments.

For example, authors of a discussion paper on information communications technology in Canadian schools argue that "a high school diploma can and must become a relevant credential for the new economy" (2).[1] They suggest that there is a need to "invest more strategically in the 50 percent of young people who are not bound for college or university" (2). While the exact figure of youth who do not go on to post-secondary institutions at some point is open to challenge, the sentiment that more attention must be given to developing students' employability skills during compulsory education is noteworthy.

There is greater interest in assessing students' skills as a measure of the efficacy of investment in compulsory education. At the international level, OECD countries developed the *Programme for International Student Assessment* (PISA) to assess whether high schools are "preparing children for full participation in society" (5). PISA is said to be broader than previous international tests in that it tests competencies for "real life

situations" (5). The first PISA assessments were administered in 32 countries, including Canada, in 2000.

In 1994, the Canadian government also launched a national study of how essential skills were used in jobs requiring a high school diploma or less.[2] Like PISA, the study was motivated by concerns about preparing young people appropriately for the "knowledge economy." *Essential skills* include reading and using documents, math, problem solving, decision-making and computer use. Human Resources Development Canada (HRDC) has collected information on how these skills are used in over 200 different occupations and has worked with provincial and territorial ministries of education to develop products and projects to stimulate interest in the essential skills, to provide information about the use of these skills in the world of work, and to assist students and learners of all ages to develop needed skills.[3]

HRDC authors refer also to the Conference Board of Canada's employability skills profile (ESP), developed in the early 1990s to provide schools with a better sense of what employers are looking for in workers. Because of its general acceptance by teachers, it has become an influential document in K-12 education and has led to initiatives aimed at encouraging student awareness of these skills through the development of employability skills portfolios (Taylor 1998). The Conference Board has an employability skills forum that continues work begun on the ESP. It also sponsored the development by Knowledge House (a private company) of an on-line certification of employability skills called Key Certification.[4]

The idea of an "employability skills test" is being explored in different provinces and will no doubt continue to generate interest among groups within government,

employers, educators, and companies interested in developed such products. While the notion of certifying skills does not necessarily translate into greater interest in differentiating the high school credential, the number of credentials offered in high schools has grown in recent years. In addition, existing credential programs have expanded. There seems to be pressure on schools to not only pay more attention to developing students' skills but also to differentiate students and schools by accrediting those skills. This paper examines the increased interest in credentialing the high school, focusing on three questions: First, why has the credentialing trend become so apparent in recent years? Second, why have these particular credentials developed? And finally, what are their probable effects?

Answers to these questions are informed by discussions about work in the "knowledge economy" as well as by theory that views education as a positional good. The next section outlines these theoretical influences. The section that follows describes a number of high school credentials in terms of why they were introduced, enrolment patterns, students targeted, and students served. The concluding sections draw on theoretical writings to analyze credentialing initiatives and their effects.

**Theoretical Influences**

The relationship between economic changes and worker skills has spawned debate in recent decades. Smith (2001: 1) identifies two relevant policy questions as follows: First, has technological change significantly increased the demand for skilled labour? And second, have the education and training systems adapted to deliver the skills demanded? He proceeds to identify a range of responses to these questions, from HRDC researchers who assert that new technology raises skills demands and that the supply of skills is

adequate, to Smith's own position that new technology does not distinctively raise skills demands but that the supply of skills is inadequate nevertheless. These positions warrant further explanation because they have implications for discussion about the role of schools in developing and certifying skills.

The position that new technology has raised skill demands is based primarily on changes in wages and in the distribution of occupations. For example, some writers have used empirical data to argue that widening earnings inequality results from an increased demand for and/or decreased supply of qualified employees. Others suggest that employment in occupations made up of information workers has been growing faster than employment in other occupations (see discussion in Smith 2001). Smith challenges these interpretations, suggesting that income inequality may be related to other factors besides technological change and that occupations defined within the category "information work" may include a range of cognitive skill demands. Livingstone (1999) similarly argues that wage polarization does not necessarily equate with skill polarization and that the degree of upgrading of technical skill requirements in North America since the 1960s has been exaggerated.

However, Smith (2001) and Livingstone (1999) disagree about whether the current supply of skills is adequate. Livingstone argues that there is a general oversupply of educationally qualified people on the job market that has been "disguised by employers' inflation of credential requirements, as well as by scantily based imputations of persistent skill shortages and general expressions of dissatisfaction with the quality of job entrants" (5). He views rhetoric around the need for schools to perform to higher standards to close the education-jobs gap as an attempt to "retool" human capital theory,

diverting attention from demand-side problems such as the actual utilization of workers' skills by employers.

Smith, on the other hand, argues that although there is not a scarcity of university-educated labour in Canada, there are shortages associated with *intermediate skills*—that is, "skills not normally associated with university training" (2001: 14). He points to data from the International Adult Literacy Survey (IALS), which suggest that occupational groups associated with intermediate skills such as technicians, clerks, and craft employees score lower on cognitive skills tests than those in several other OECD countries. He also argues that chronic shortages in the trades in Canada may also relate to problems with the supply of intermediate skills. Smith also makes a link to schooling in that Canadian averages on tests of cognitive performance of school children "have been located at the middle or bottom of the distribution" (14).

We can better understand differences in the arguments presented by Smith (2001) and Livingstone (1999) by focusing on different views of the relationships between skills, credentials, and actual work tasks. This discussion draws on *credentialist educational theory* addressed in the work of Collins (1979) as well as the more encompassing *social closure theory* described by Murphy (1988).

Collins (1979: 12) outlines a *technological function theory of education* and then proceeds to critique it. This theory assumes that:

- the school requirements of jobs in industrial society constantly increase because of technological change (i.e., changes in education requirements are linked directly to changes in skill requirements);
- formal education provides the training necessary for more highly skilled jobs, and;
- educational requirements for employment constantly rise.

Although Collins was writing at the end of the 1970s, these assumptions continue to be dominant in the current period. For example, if we accept Smith's (2001) description of the position taken by HRDC researchers, it appears probable that they would accept all three propositions above. Smith (2001) himself does not challenge assumed linkages between education and job skills except to acknowledge that the value of skills is not solely a function of labour supply and demand.[5]

Collins (1979), on the other hand, takes as his object of inquiry the presumed tight linkages between educational credentials, skills, and work tasks. In refuting technological function theory, he argues that historically, the educational level of the labor force has changed in excess of what is needed to keep up with the skill requirements of jobs, resulting in over-education. He therefore questions the assumption that an increase in education requirements is directly linked to upgraded skills demanded by upgraded work. He also decouples the presumed link between education and skills, commenting that "what is learned in school has more to do with conventional standards of sociability and propriety than with instrumental and cognitive skills" (19). Murphy (1988: 162-63) usefully summarizes Collins' analysis as follows:

> Educational requirements for employment and advancement reflect the interests of groups that have the power to impose them more than they reflect the technical needs of positions. In order to further their own control of organizations, employers use educational credentials to select as members of their dominant ranks those who have been socialized into their own élite culture and to hire as lower-level employees those who have been indoctrinated into an attitude of respect for this élite culture and those who hold it. Schools socialize individuals into the dominant status culture, with higher education propagating the élite culture and lower levels of education inculcating a respect for it ... Even academic and vocational knowledge may be more the content of a particular status culture than the technical functional prerequisites for future work.

Murphy (1988: 20) regards Collins (1979) analysis of credentialism as well as Bourdieu's (1981) analysis of the scientific field as special cases of *social closure*. Following Max Weber, Murphy defines "closure" in terms of processes of subordination "whereby one group monopolizes advantages by closing off opportunities to another group of outsiders" (8). Rules governing these practices of monopolization may be based on factors that include race/ethnicity, sex, religion, politics, knowledge, and/or credentials. Murphy argues that Bourdieu's work, most obviously his concept of *cultural capital*, shares with closure theory:

> [T]he perception of the parallel between the processes of monopolization (and exclusion) based on capital in the market and other processes of monopolization and exclusion... (Murphy 1988: 19)

Like Collins, Bourdieu is interested in critiquing the assumption that educational structures correspond to "some rational economic and technical logic" (Morrow and Torres 1998: 124). However, unlike Collins' argument that education is irrelevant to work requirements, Bourdieu assumes that schools help inculcate forms of "habitus" or status qualities.

Collins' (1979) analysis argues that exclusion on the basis of educational credentials is equally significant to exclusion based on property. Murphy (1988: 162), on the other hand, states that credentials are "better conceived as derivative and contingent forms of exclusion," with the principal form in capitalist market societies being legal title to private property. Murphy also challenges Collins' suggestion that credentials have little relation to necessary skills. Rather, he argues that credentialed work includes both "technical-functional and status characteristics" (Morrow and Torres 1998: 133).

Social closure theory is useful for understanding changing relations between schools and the workplace in terms of struggles over the positional structure of society. As Murphy (1988) suggests, "the historical process of the accumulation of power, resources, and rewards through the monopolization of skills and credentials is another important contributory factor to the positional structure" (50). However, the results of such struggles are not predetermined. Subordinate groups frequently respond to exclusion by challenging the advantage of higher groups and try to usurp some of their privilege. Closure theory is valuable to the extent that it can shed light on positional struggles by clarifying the nature, sources, and consequences of both *exclusion* and *usurpation*.

Livingstone (1999) borrows some of the ideas expressed by social closure/credential theorists. For example, his discussion of the "credentials gap" highlights the relationship between the educational attainment of workers and the credentials required for entry into their current jobs. Canadian data suggest that credential underemployment among the employed workforce in Canada is around 20 percent (p. 95). Livingstone also questions presumed links between credentials and work tasks in his discussion of the "performance gap," the extent to which individuals are able to use their skills and knowledge in performing their jobs. He concludes that this gap is extensive in North America and has been increasing (85). These findings support his general argument that there is little evidence of a general or persistent technical skill deficit among employed workers.

While incorporating elements of Collins' credential society thesis, Livingstone's analysis argues that an explanation of fundamental aspects of underemployment requires greater attention to "conflicts between employers and current and prospective employees

over conditions of work" (179). He therefore argues for the need to complement Weberian theories of status competition with Marxist theories of class struggle.

The above discussion describes different positions regarding economic and labour market changes. Critical approaches exemplified by writers working in neo-Weberian (Murphy 1988, Brown 1995, Marginson 1995) and neo-Marxist (Livingstone 1999) traditions present alternatives to the technological function theory of education—a view that continues to be dominant in contemporary policy circles. Some of the concepts and ideas presented by critical writers are useful in making sense of credentials currently offered in high schools. The next section discusses some of these credentials.

**High School Credentials**

Discussion about credentials tends not to focus on the high school. Collins' (1979) analysis of the rise of the credential system highlights the ability of professional groups (doctors, lawyers, and engineers) to monopolize opportunities and to manipulate symbolic status. His analysis suggests that differentiation occurs at higher levels in the educational hierarchy—a high school diploma is considered by many to be a stepping stone to further credentials needed for most middle class jobs. The financial returns to a high school diploma are also less significant than for post-secondary qualifications, particularly for females. A study by Ferrer and Riddell (2001) of the contribution to earnings of various credentials (after controlling for years of schooling) finds that high school graduates earned a premium of five percent over non-high school graduates, while the premium provided by a bachelor's degree was 26 to 29 percent, and that provided by certain professional degrees was 35 percent.[6] The university versus high school wage gap

was larger for females (59 percent) than for males (49 percent) (10). But for both, the market value of a high school diploma is relatively low. Age-related forms of exclusion based on credentials and experience have traditionally disadvantaged high school students.

Despite these realities, interest in making the high school diploma a more relevant credential seems to be reflected in the expansion of more differentiated high school programs. Therefore, although it is commonly assumed that high school "tracking" has decreased over time, the evidence is contrary. The subsequent discussion focuses on "academic" programs (international baccalaureate and advanced placement) and "vocational" programs and initiatives (apprenticeship, tech prep, integrated occupation, and industry certifications). I focus on why they were introduced, the type of student targeted by programs/initiatives, and changes in enrolments over time.

**"Academic" High School Programs**

There are two programs leading to credentials that are aimed specifically at university-bound students: the International Baccalaureate Diploma Program and the Advancement Placement Program. The following discussion addresses the origins, objectives, enrolment trends, and selection criteria associated with these two programs, with a focus on Canada and Alberta.

International Baccalaureate:

> The International Baccalaureate Organization's Diploma Programme, created in 1968, is a demanding pre-university course of study that leads to examinations. It is designed for highly motivated secondary school students aged 16 to 19. The programme has earned a reputation for rigorous assessment, giving IB diploma holders access to the world's leading universities. ... Internationally mobile students are able to transfer from one IB school to another. The programme was

born of efforts to establish a common curriculum and university entry credential for students moving from one country to another.[7]

Although International Baccalaureate Organization (IBO) offers programs for students aged 3 to 19, the high school program is most commonly offered in Canadian schools. For example, of 20 IB schools in Alberta, 19 offer the IB Diploma Program for high school students only. IB programs are offered in 1,182 schools in 101 countries. The high school Diploma Program was developed with grants from UNESCO, the Twentieth Century Fund, the Ford Foundation and other groups.[8] Between 1990 and 2000 the number of candidates taking IB exams in all countries increased by 168 percent (IB, 2000).

In Canada, there has been an increase of 121 percent in the number of candidates taking IB exams between 1990 and 2000, and the number of schools offering IB increased by 82 percent (IB 2000). Eight provinces in total offer IB program in their schools. Of the 71 schools offering the IB program in 2000 in Canada, 20 (or 28.2 percent) were in Alberta. Alberta had the highest number of IB schools, followed by Ontario (17 schools) and British Columbia (12 schools). Fourteen of Alberta's 20 IB schools were located in Calgary or Edmonton and only one can be described as a "rural" school.[9] In addition, only one is a private school. The number of schools offering IB programs in Alberta increased from 13 to 20 between 1995 and 2000. Students generally have the choice of opting for the Diploma Program requiring courses in six areas (full IB), or for the Certificate Program requiring courses in selected areas (partial IB). The number of diploma candidates in Alberta in 2000 was 15.6 percent of the total number of "IB" students in Alberta. Students must pay fees to write IB exams, and approximately 80 percent of the candidates who attempt a diploma succeed.[10] In Alberta, 233 diplomas

were awarded in 2000. Statistics suggest that in each year between 1995 and 2001, between five and fifteen percent more females than males completed locally developed IB courses (Personal communication, Alberta Learning staff, October 2001).

It is clear from the above statistics that IB programs have increased in popularity, and that they are directed at an élite group of students. The purpose of the program is to provide a high school credential that is internationally recognized by schools and universities and to thereby enhance students' geographic mobility. Information from high schools offering IB diplomas in Alberta suggest that the most common entry requirement is a minimum 80 percent average in junior high or pre-IB related coursework. Most high schools offering IB in grade 11 and 12 have a pre-IB honours program taken by interested students.

Advanced Placement Programs:

The Advanced Placement (AP) Program was developed in the United States and is currently offered in more than 75 countries. It was developed in response to concerns that students were not being sufficiently challenged by high school and college courses. In 1951, the Ford Foundation's Fund For the Advancement of Education sponsored a study to examine what students were being taught in the last two years of high school and the first two years of college. The committee published the results of their study in 1952 and recommended that the College Board develop a set of achievement exams that would enable colleges to give qualified students advanced placement. The College Board became involved with Advanced Placement in 1954.[11]

Currently, AP is advertised as a program that better prepares students for university. There are 35 courses in 19 subject areas, offered by nearly 14,000 secondary

schools around the world.[12] Like the IB programs, schools can offer selected courses and some colleges and universities in Canada grant credit and/or advanced standing to students who earn satisfactory grades on AP examinations. In addition to this benefit, it is suggested that students in AP courses will be studying with "classmates who are just as enthusiastic" about the subject as themselves. Apparently, AP students are twice as likely to enter Ph.D. programs. These benefits are said to make the per course exam fee of $77 ($100 Canadian) "well worth it."[13] Students interested in enrolling in a university outside of Canada or the U.S. can also work toward the AP International Diploma for Overseas Study (APID), which is intended, like the IB Diploma, to enhance geographic mobility by certifying their achievement.[14]

Advanced Placement courses are offered in every province and territory in Canada. The number of examinations administered increased 25 percent and the number of candidates increased 22 percent between 1996 and 2000 (College Board 2000: 3). Information for 2001 shows that a total of 356 schools offer AP with British Columbia leading the way (136 schools) followed by Ontario (78) and Alberta (44).[15] The number of AP examinations in Alberta increased by around 57 percent between 1997 and 2001 (1411 exams were administered in 2001). Of these, 80.5 percent of candidates achieved a satisfactory grade.

Statistics suggest that the number of males and females completing locally developed AP courses was almost equal in 1995/96 and 2000/01 (Personal communication, Alberta Learning staff, October 2001). A College Board report that divides students into ethnic categories[16] indicates that 69.4 percent of AP students taking exams in Alberta were White, followed by 12 percent Asian, and 8.3 percent who

described their ethnic group as "Other." Approximately 9 percent of students did not state their ethnic group. Only one student stated that they were in the category American Indian/Alaskan (which we translate as "Aboriginal" in Canada) and two described themselves as Black/Afro-American (College Board 2000: 6). Together, these categories comprise less than one percent of total candidates. Almost 10 percent of students examined did not state their ethnic group. In Canada overall, 57.3 percent of AP student taking exams reported their ethnic group as White, 24.7 percent Asian, and 7 percent "Other." Again, less than one percent stated that they were in the category American Indian/Alaskan or Black/Afro-American. Statistics Canada does not use comparable categories to the College Board for describing the population by ethnic origins. However, the 1996 Census states that 2.4 percent of Albertans were of Aboriginal origins, suggesting that Native students were underrepresented in Advanced Placement programs.[17]

Information provided about student selection into AP courses is contradictory. For example, the College Board states:

> [T]he AP Program wants there to be the option for any student in any school to take an AP course if he or she has sufficient pre-AP knowledge and skills. We don't want this to be a program for élite students or just the gifted and talented.[18]

But when one looks at schools offering AP courses in Alberta schools, it is apparent that the program is, in fact, geared to high academic students. Most schools require that students achieve a minimum grade in a prerequisite course (80 percent is common) and/or offer honours program courses that serve as prerequisites for AP courses. In several schools, students also require recommendations from teachers. In comparing IB and AP programs, one Alberta high school states that both are enrichment programs that

are accepted by universities throughout the world.[19] The key differences are that the AP is centred in North America, requires fewer changes to Alberta curricula and therefore fewer courses may be required, and does not require students to take a minimum number of courses.

### "Vocational" High School Initiatives

"Vocational" initiatives tend to direct students into two-year college programs, trade certification, or directly into the workforce. These programs tend to be regional in focus, compared to the international focus of IB and AP. This section looks at the origins, philosophies, goals, enrolment patterns and selection criteria for three initiatives offered in high schools in Alberta: Registered Apprenticeship, Tech Prep, and the Integrated Occupational Program. I also describe an industry certification that has been introduced into schools across Canada. Programs focus on providing students with "intermediate skills" (Smith 2001), and articulation, where it is pursued, is with colleges rather than universities.

Registered Apprenticeship Program:

To address the national shortage of workers in the trades, most provinces have introduced high school apprenticeship programs in recent years. Alberta introduced its Registered Apprenticeship Program (RAP) in 1991, largely in response to concerns raised by provincial employers about skill shortages in the trades (Alberta Chamber of Resources and Construction Owners of Alberta 1990). RAP provides opportunities for high school students as early as grade ten to earn credit toward a journeyman certification and a high school diploma at the same time. Apprentices are paid at least minimum wage and work

only part time until they complete high school. If they begin in grade ten, they can complete the hours required for the first year of their apprenticeship by the time they finish high school.

Although enrolments have increased over time, the program continues to represent a small proportion of high school students overall. By 1999/2000, 746 high school students were registered as apprentices in the program (HarGroup Management Consultants 2001: 1). Also in that year, 209 Alberta high schools offered RAP courses to students. A 1993 RAP update from Apprenticeship and Industry Training indicated that males tended to be opting for auto mechanic trades, while the much lower number of females entering RAP were most often found in hairstyling (ten of the thirteen female RAP apprentices in 1995 were hairstylists).

To promote RAP, the provincial government enlisted the help of an industry-driven foundation called Careers the Next Generation (CNG).[20] CNG has been driven primarily by oil and gas sector employers (e.g. Syncrude Canada), that are concerned about labour shortages in the trades because of oil sands development projects. This group developed an "enhanced" model of RAP called RAP Plus. To qualify for this program, students must have 65 percent average in their high school work, no attendance problems, and must commit to graduating from high school. If accepted, CNG matches students with interested employers and places them in a 125 hour unpaid probationary internship. There is no guarantee of permanent employment beyond the high school program. In fact, a survey of 345 RAP employers found that only 22 percent regarded RAP apprentices as potential long-term employees (HarGroup Management Consultants 2001: 3).

Curiously, the evaluation of RAP commissioned by Alberta Learning, Apprenticeship and Industry Training provided no demographic information about RAP students. However, a survey was conducted of almost 600 students enrolled in a pre-RAP internship (Alberta Finance, Statistics 2000). Of the 103 students who responded, seven percent were female. These young women were noticeably less likely to feel that the internship met their needs (57.1 percent vs. 75.2 percent of young men), less likely to recommend internships to others (57 percent vs. 92 percent of young men), and less likely to continue in the RAP program (57 percent vs. 88 percent of young men) (Alberta Finance, Statistics: 26).

The same survey asked whether parents of RAP interns had an occupation in the trades. Of the 103 parents who responded to the survey, 41 percent were employed in the trades (p. 10). Given that only about 14 percent of Canadian full time, full year workers hold a trades certificate or diploma (Ferrer and Riddell 2001),[21] it is apparent that trades workers are over-represented among parents of RAP interns.

Tech Prep:

At a meeting in September 2001, Tech Prep representatives from across Alberta celebrated the news that the education department had agreed to recognize the "Tech Prep credential" on the high school diploma beginning in 2002, and that employability skills portfolios were to become a mandatory part of high school curriculum. Tech prep programs were first introduced in Central Alberta in 1995, and are currently offered in about half of the school districts across Alberta. In the early 1990s, the superintendent of public schools in Red Deer was instrumental in promoting the concept, based on U.S. models. A representative from Central Alberta suggests that programs in Red Deer were

the first in Canada, but adds that Nova Scotia, Saskatchewan, and the Northwest Territories have begun to develop similar initiatives (Interview, January 2001).

Tech Prep is not currently a provincial program. However, there is government support for this initiative—Alberta Learning provides a small amount of funding to the Alberta Tech Prep Consortium, while several regional branches of Alberta Human Resources and Employment help support regional Tech Prep consortia. Alberta Tech Prep consortia focus on developing students' workplace competencies in broadly-defined occupational streams, linking high school and post-secondary curriculum through articulation agreements with colleges, teaching high school subjects in an applied manner, and providing opportunities for workplace learning.

The Central Alberta Tech Prep credential requires students to take twenty credits in non-core subjects (e.g., Career and Technology Studies courses), ten credits in work experience in a specific occupational area (i.e., 200 hours), fifteen credits in math (five above the minimum diploma requirement) and ten credits in science (including higher level applied courses). A Tech Prep representative states: "So the value added, the difference between a [Tech Prep] credential and a high school diploma is that the math, science, and CTS requirements are higher" (Interview January 2001: 6). The credential also requires students to present their employability skills portfolio, based on the list of "generic" skills provided by the Conference Board of Canada, to a panel of employers as a kind of "capping exercise."

The promise of greater articulation between high schools and colleges is also a potential "value-added" aspect of Tech Prep. However, a representative from Alberta Learning (Interview, September 2001) suggests that the market value of a Tech Prep

credential is questionable, given problems with articulation. Articulation between consortia and colleges has only occurred on a regional basis, colleges have been reluctant to offer articulation for anything besides non-core courses, and articulation has occurred on a course-by-course basis for the most part. There is also the question of whether students who go directly into the workforce after high school will have their credentials recognized by employers.

The promises of articulation offered by Tech Prep have not been realized partly because consortia do not have sufficient time and resources to pursue agreements, colleges do not see sufficient benefits, and the province has not become involved to date. In addition, although consortia promote the idea of applied curriculum courses, there has been little provincial support for developing such curriculum. The central Alberta consortium began some of this work, borrowing U.S. curriculum, but did not continue because of a lack of funding. The fact that required courses for the Tech Prep credential are those accepted as prerequisites to most college and technical diploma programs suggests that the credential is aimed at what Grubb (1999) calls the *sub-baccalaureate* market. Students in high academic programs do not tend to have the space for the required non-academic options and students in Integrated Occupational Programs[22] are unlikely to take the required level of applied courses in math and science.

In 2001, there were approximately 160 Tech Prep graduates across Alberta. About 67 percent of these graduates were from Central Alberta, where the credential is offered in eleven high schools. Graduates in Central Alberta were almost evenly divided between males and females, although it is important to also look at occupational strand by gender--information that is not available. We do know that the occupational clusters offered in

Tech Prep vary geographically across the province depending on the local economy. For example, Fort McMurray offers plant and mining operations, while Medicine Hat offers agriculture. Therefore, there is a tension between the interest in developing portable, general skills and preparing students for the local labour market.

Integrated Occupational Program (IOP):

The IOP program was introduced in Alberta in the late 1980s and, like those previously mentioned, leads to a differentiated credential. It developed as a result of the suggestion in the government's 1984 Review of Secondary Education that "there was a group of students that were not being effectively served by the current education system in junior and senior high schools" (Interview, Alberta Learning representative, September 2001: 16). A Certificate of Achievement is awarded to students who have completed 80 credits, compared to the 100 credits required for the high school diploma (Alberta Education 1998: 293). Of these 80 credits, at least 27 must be in academic credits, 13 in optional courses, and 40 credits in IOP occupational courses. IOP curriculum was designed to provide concrete learning experiences, and occupational courses were to include off-campus learning, job shadowing and mentoring.

The criteria for entering IOP have changed over time. A representative from Alberta Learning comments that when IOP was piloted, it was stated that eligible students "would have an IQ in the range of 75 to 95 plus or minus 5" (Interview, September 2001: 29). The department later used the "euphemistic label of having a significant lag in their core courses" (29). Information produced in 1998 by Alberta Education states that IOP is for "at-risk" students aged 12.5 to 19 years of age. This material also notes that IOP students represent between 4 and 8 percent of the

junior/senior high school population; in 1994/95 there were approximately 5,000 students in 180 schools (Alberta Education 1998: 293). In 2000/2001, 640 grade 9 students were coded as IOP and the number for grade ten was closer to 1,000 (Personal Communication, Alberta Learning staff, September 2001). It was estimated that about two-thirds of these students were male. The department of education undertook a review of IOP programs in the late 1990s and recommendations included increasing the program's credit requirements so that students receive a high school diploma. However, no action on the review has been announced to date. There are also concerns that the curriculum is very outdated.

Industry Certifications:

In addition to provincial programs like RAP and IOP, a wide variety of "credentialing" opportunities are available within the Career and Technology Studies (CTS) curriculum introduced by the education department in the early 1990s to replace the old vocational courses (Alberta Education 1998: 317). These range from credentials in babysitting and first aid to petroleum industry and information technologies. In the information technologies area, several corporations provide high school certification programs that are offered either as CTS modules or as locally developed courses. This section focuses on *Cisco's Certified Networking Associate program* as an example of a type of certification that is becoming increasingly prevalent in high schools.

In explaining why Cisco certificates are not a part of provincial curriculum, a representative from Alberta Learning observes:

> It's political in my opinion. For example some three, four, maybe five years back, years ago Cisco Systems submitted ... their Cisco Training package, CD ROMs with a request that it be recognized as an Alberta Learning course or courses. The department didn't want to touch it and I can understand why. Because once you

> do that you're opening up a Pandora's box to every other company that might wish to promote their own product. If the Cisco Training package didn't have the name Cisco on it and it provided, as it does, the opportunity to learn skills which are transferable, regardless of the corporate identity, you know then it would have been another matter. (Interview, September 2001: 28)

Despite this initial reticence, the department of education depends on input from employers like Cisco in developing CTS strands in information technology and other areas. Meanwhile, decisions about whether or not to offer the Cisco Networking Academy program are delegated to school districts.

Cisco's Networking Academy Program operates around the world, and more than 3,000 students were enrolled in the program in almost 200 educational institutions across Canada in 2000 (Pilieci 2000). These institutions included 137 secondary schools, 53 colleges and 5 universities. The on-line certificate program, consisting of four 70-hour modules, is offered to students in grades 11 and 12. It represents the first level in a range of certificates offered by the company both in post-secondary institutions and in-house. The program was launched in high schools in most provinces in 1998 and about 75 percent of students reportedly complete the program (Foran 2000). Fifteen schools in Alberta were offering the program in 2001 (Personal communication, Cisco representative, November 2001). Students are required to pay a fee to write the exam leading to certification and schools/districts pay for the training of teachers.

Student Demographics and Programs:

While it is relatively easy to obtain information about program enrolments and mandates from the department of education, it is more difficult to gain a picture of students in different programs. Gender breakdowns and breakdowns of AP students by ethnicity are available, but information about race/ethnicity, parental occupations, parental education

levels, and so on is not collected by the department of education (Personal communication, Alberta Learning staff, October 2001). However, a study of secondary school students in Toronto provides information that is relevant to this work (Yau, Cheng, and Ziegler 1993).

Drawing on data from 1991/92, authors looked at the demographics of students enrolled in three program streams: Basic (comparable to IOP courses in Alberta), General (comparable to 13, 23, 33 level courses) and Advanced (comparable to 10, 20, 30 level courses).[23] They found that the proportion of male, Black, and Aboriginal students in non-university tracks was disproportionately high. However, the proportion of Asian students in the university stream was higher than their proportion in other streams (p. i).

A high proportion of students from high socio-economic backgrounds were found in the Advanced level program whereas there was a high representation of students from low socio-economic families in General and Basic programs. For example, 56 percent of students in the Advanced level program reported their parents' occupations as professionals or semi-professionals, compared to 29 percent of students in the General level program and 18 percent of students in the Basic level (Yau, Cheng, and Ziegler: 6). Similarly, 65 percent of students in the Advanced level program listed their parents' highest education level as university or college, compared to 38 percent in the General level program and 34 percent in the Basic program. Clearly, program streaming can have socially reproductive effects that are problematic (see also Curtis, Livingstone, and Smaller 1992).

**Comparing High School Credentials**

> There's no question we're living in a period of "credentialitis." The problem is that most credentials are on paper or pieces of mock parchment and most of them do not indicate with any degree of reliability or validity, the competency sets underpinning them. (Interview with Alberta Learning Representative, September 2001: 17)

The theme of making the high school diploma more relevant to the working world is echoed in the above comments and seems to be a driving force behind the introduction of a number of the "vocational" credentials described in the previous section. However, discussion of academic and vocational credentials also suggests differences in terms of the impetus for their development, their relationship to job skills, and their market value. This section begins with a discussion of the expansion of high school credentials in general, and then turns to a comparison of "academic" and "vocational" credentials.

As noted earlier, it is possible to explain the expansion of credentials overall, including those at the high school level, in terms of the increase in skill levels associated with an information economy. However, this technological function view assumes a linkage between credentials, skills, and work tasks that has not been observed empirically (Collins 1979; Livingstone 1999). While, as I go on to argue, "vocational" credentialing initiatives may aim to tighten this linkage in certain ways, I do not believe that schools are responding directly to the commands of employers.

Instead, I agree with Murphy (1988), who suggests that dominant groups in capitalist societies are more likely to try to *profit from* or *constrain* the schools in the course of their economic activities than to try and *command* the schools. The latter is costly and removes the appearance of autonomy that is so important for the legitimation of public schooling. Profiting from the school involves the power to take advantage of the possibilities presented by schools, while constraining the school has the effect of

"mak[ing] certain alternatives appear less possible or less attractive than others to educators, students, and parents, and so influenc[ing] their choices and subsequent actions" (157).

Dominant groups in this case include both employers (i.e., groups with control over property) and professionals (i.e., groups with control over positional capital). For example, employers are likely to promote credentials that reduce their costs of employee selection and training and thereby allow them to profit from the school. In addition, their political activities through business think tanks and lobby groups also constrain public sector organizations such as schools through reductions in funding and restructuring efforts aimed at increasing efficiency and accountability. The size and operations of the private school sector are also likely to affect public provision. Other dominant groups include middle-class professionals (parents and educators), who are likely to promote credentials that allow their children to gain the cultural capital needed to reproduce their positional advantage (since this is their primary form of capital) and to protect their "monopolies of status-cultural knowledge" (Murphy 1988: 246).

Brown (1995) suggests that the expansion of market reforms in education can be interpreted as a form of "positional" class conflict reflected in the rise of what he calls "parentocracy" (pp. 43-4). It is not difficult to appreciate that increases in unemployment and nonstandard[24] work forms since the 1970s probably exacerbated the middle class "fear of falling" (Ehrenreich 1989). Brown argues that a market system of education, associated with the slogans of "choice, standards, and freedom," has been promoted by parents interested in gaining a competitive advantage for their children (1995: 44).

Private sector employers are also likely to embrace a marketized system that provides for greater consumer choice and accountability (Taylor 2001).

In the Alberta context, the 1994 restructuring of education, which resulted in the introduction of charter schools, open boundaries, school-based management, and funding following students, is consistent with broader trends toward a more marketized system. As a result, school districts and schools compete actively for students. In this competition, a key method of differentiating between schools is through the programs and credentials that they offer. An "AP" or "IB" school will have more cachet for middle-class professionals—the parents who are best able to exercise their choice within the system. On the other hand, educators who are concerned about the "neglected majority" of students and employers interested in workers with intermediate skills are likely to promote more vocational credentials.

Although the marketization of education may explain the expansion of high school credentials overall, all credentials are not equal. It is therefore important to compare different credentials currently on offer in terms of the impetus for their development and their relationship to job skills and the labour market. This comparison distinguishes between "academic" credentials articulated with universities, and more "vocational" credentials that are either articulated with colleges[25] or promote direct entry to the workforce. I argue that differences in these credentials are rooted in the power of different groups in positional competition.

Some of the obvious differences between "academic" and "vocational" credentials can be summarized as follows:

- AP and IB programs have been offered for over 30 years while in Alberta, RAP, Tech Prep and IOP programs were implemented in the late 1980s or 1990s.

- IB and AP programs were developed as a result of concerns of university educators and parents about providing international mobility and challenging academic students. RAP and Tech Prep programs were developed as a result of employers' concerns about students' employability skills and educators' concerns about the "middle majority" of students. IOP was reportedly developed by the province in response to concerns about the needs of less academic students.

- Students are assessed and credentials are awarded for AP and IB programs by international coordinating bodies. For Tech Prep, RAP, and IOP, educators and employers assess students, and the provincial department of education awards credentials. Cisco corporation awards networking certificates.

- AP and IB programs focus primarily on academic core subjects and articulate with élite universities in Canada and abroad. Tech Prep, RAP, IOP, and Cisco certificates reportedly provide concrete learning approaches and the employability skills required in regional and provincial labour markets. Although Tech Prep seeks to articulate with local colleges, success has been limited.

The above points of comparison warrant further discussion. For example, AP and IB programs were introduced during a period of expansion in the post-secondary system linked to human capital ideas about the need for the state to invest more in education to ensure national prosperity. The drivers of these programs appeared to be post-secondary educators with the financial support of charitable foundations and the endorsement of governments. "Vocational" credentials in Alberta high schools, on the other hand, are a more recent phenomenon linked to employer concerns about labour shortages that have been taken up by educators. Research suggesting a need to increase the level of "intermediate skills" has also been influential (Smith 2001).

But the latter initiatives have been introduced during a period in which human capital theory has been "reinvented" to reflect shifts in thinking about the role of the state. Public sector spending has been cut, services have been devolved to more local levels and/or contracted out to the private sector, and discourses around educational reform are focused more on increasing value for money. Individuals are seen as

responsible for maintaining their employability through investment in education and training. In such a climate, talk about making the high school diploma more relevant has currency.

These differences in the drivers behind certain credentials have implications for the type of students targeted, how skills are assessed, and the type of skills they try to develop. AP and IB programs focus on high academic students while "vocational" credentials target the "middle majority" of students. AP and IB students are assessed through the international bodies that coordinate these programs. Academics and teachers (i.e., professionals) tend to be involved in setting and grading exams leading to credentials. For "vocational" credentials, on the other hand, employers have a much greater say in the content of curriculum (Cisco is an extreme example) and in the definition and assessment of necessary skills. Students are assessed as much on "soft" skills such as *communication* and *attitude* as on technical skills. These differences suggest that vocational credentials are tied to employers' needs (the needs of capitals), while academic credentials are tied more directly to professional groups' struggle for monopolization.

The question of who is driving different programs relates also to the type of skills that are to be developed. In AP and IB programs, there is an emphasis on the development of core academic skills and the ability to think abstractly. In more "vocational" programs, there is an emphasis on providing concrete learning experiences through workplace experience as well as providing more applied pedagogical approaches to school curriculum. There is a noticeable distinction between the provision of "practical" skills in these programs compared with what Murphy (1988) describes as the

more "abstract" utilitarian skills that form the basis both of AP and IB programs, and of professional knowledge. Murphy suggests that "credentials certifying abstract utilitarian knowledge determine whether one will be excluded from, or allowed to acquire, the corresponding practical knowledge and status-cultural knowledge" (248).

The skills desired are linked to messages about where students are likely to be able to deploy their skills within the global labour market. IB and AP programs appear to prepare students to become "symbolic analysts" who are engaged in "problem-solving and strategic-brokering activities in the global knowledge economy" (Reich, cited in Brown 2000: 641). These groups have labour market power that enables them to compete across national boundaries. Vocational programs, on the other hand, prepare students for jobs requiring "intermediate skills" in the local labour market. Although the skills taught within such programs are to be transferable and students more employable, we can expect that labour market power of students in these programs will be limited by the particularity of work placements and the power of employers to influence or determine curriculum content. Brown's (2000) question about whether social élites are increasingly defining positional competition for credentials and jobs in international terms is therefore relevant.

The preceding discussion of differences between programs is important because there is a predominant assumption that credentials, as individualistic exclusionary codes, are equitable. "Smart" kids go into AP and IB while those who are less academically able go into Tech Prep and RAP. However, as my discussion of the demographics of students in different programs within the Toronto Board is intended to indicate, different groups have different capacities to "deploy their material, cultural and social capital in the competition for credentials and jobs" (Brown 2000: 638). It is apparent that different

exclusionary rules are present in different programs. Gender plays an obvious role in RAP and IOP, while more subtle gender streaming may be present within other credentialing programs. Therefore, whether credentials represent a formally rational code that is more egalitarian than historical collectivist codes (based openly on race/ethnicity, religion, gender) will depend on the conditions under which they operate.

In the current climate, several factors operate against more egalitarian outcomes. For one thing, the move toward a more marketized system of education tends to construct positional competition as "zero-sum" (raising the skills levels of select groups of students) rather than "positive sum" (raising the skills levels of all students) (see Brown 2000). Competition between schools encourages greater differentiation and greater inequality. Also, the linking of "vocational" credentials to the needs of employers with little intervention by the state is problematic. As Brown (2000) suggests, nation states play a key role in determining the nature of positional competition and conflict. In the Alberta context, there appears to be little interest on the part of government in determining whether credentialing outcomes are egalitarian or in ensuring that measures are being taken to ensure that equity concerns are addressed.

**Concluding Comments and Recommendations**

> [The irony of history is] that under the banner of the ideals of liberty, equality, and fraternity, a liberal capitalist system has developed which reinforces subordination, inequality, and indifference ... (Murphy 1988: 214)

By comparing old and new credentials within high schools, this paper tries to present some of the complex issues that accompany this trend. It cannot simply be assumed that such credentials reflect a demand for certain skills or that competition within and

between groups for credentials is open and equitable. My examination of the range of high school credentials currently on offer in Alberta suggests that introducing new "vocational" credentials to make the high school diploma more relevant for certain groups of students does little to challenge hierarchical social relations, despite progressive rhetoric.

While promoters of such credentials are usually well-intentioned, a comparison of academic and vocational credentials suggests that they are not "different but equal." Furthermore, regarding credentials as part of positional struggles begins the important process of analyzing the nature, sources, and consequences of exclusionary rules (Murphy 1988). The preceding discussion points to certain conditions that need to be in place if we are truly interested in making forms of closure based on high school credentials more equitable.

First, market reforms that encourage competition across schools and districts and differentiation as a way of responding to parental choice is, as Brown (2000) argues, likely to lead to a polarization of educational achievement, making it very difficult to promote a variety of programs and opportunities to students. Choice is not evenly distributed in society, and schools in Alberta are unlikely to offer a range of programs and credentialing opportunities if the market continues to govern. Therefore, educators, parents, and other concerned citizens need to challenge neoliberal approaches to educational reform that more firmly entrench the primacy of the market in all areas of life.

Second, an interest in making certain high school students more employable must coincide with efforts to have their skills valued and utilized in the workplace (cf.

Livingstone 1999). The links between credentials, skills, and work tasks must therefore be made clearer. "Vocational" credentials place employers in the driver's seat by focusing on closer ties between credentials and skills. Efforts to ensure that these skills are valued and utilized in the workplace are necessary to address the imbalance in power relations inherent in these programs.

Third, demographic information about students enrolled in different credentialing programs must be collected and made available by departments of education and districts. This will probably occur only with pressure from groups currently disadvantaged by these forms and their allies. Inequitable forms of closure therefore become more visible and data would serve as a basis for addressing systemic inequities. For example, provincial departments of education could consider adapting employment equity guidelines similar to those required of federal contractors as part of criteria for allocating work experience opportunities within particular credentialing programs. If employers are to profit from vocational credentialing opportunities, they should also be required to conform to egalitarian principles espoused by public education. Murphy (1988: 77) would refer to this strategy as a form of *inclusionary usurpation,* involving struggle by the excluded group to "become included as incumbents represented in the present structure of positions in proportion to its number in the population."

However, strategies that attempt to change the structure of positions in society, forms of *revolutionary usurpation*, are also necessary if there is a genuine interest in eliminating divisions between academic and vocational, abstract utilitarian and practical forms of knowledge. Educators, parents, and concerned citizens therefore need to challenge the forms of knowledge presented as appropriate for students in different tracks

and credential programs. Specific attention should be given to asking why pedagogical approaches that begin with concrete, embodied knowledge and then move to more abstract forms are not appropriate for all students.

Along with issues of access and inclusion, there is a need to ensure that all programs are funded equitably and adequately. There is a contradiction between making the high school credential more relevant by introducing more "vocational" credentials while allowing the IOP in Alberta to decline. IOP serves the largest (and arguably most "needy") group of students of all the vocational initiatives mentioned. Concerns about increasing the level of "intermediate skills" of the middle majority of students to meet the needs of employers must therefore not result in a shift in financial resources away from students "at risk."

Finally, it is evident from the preceding discussion of high school credentialing programs that the total number of students involved in all these programs still represents a small proportion of high school students. Therefore, the creation of these credentialing programs to date has done little to increase the relevance of the high school diploma for most students. Credentials, by their nature, increase competition amongst students and do little to support the "positive sum game" approach to positional competition that is advocated in the rhetoric of many proponents. In the "skills mania" that is currently sweeping Canada and other countries (Davis 2000), we need to remind ourselves that creating valuable high school programs involves more than credentialing the high school.

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**Endnotes:**

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[1] This discussion paper appears on the website of the Collegium of Work and Learning, an Ontario-based group, which believes "that schools can play a critical role in lowering youth unemployment and better preparing young people to prosper in a changing economy by integrating the worlds of work and learning" (see website: www.thecollegium.ca).

[2] Information about the federal government's work on "essential skills" was found on the following website: http://www15.hrdc-drhc.gc.ca/english/esrp.asp.

[3] This information about essential skills was found on the following website: http://www.hrdc-drhc.gc.ca/dept/millennium/essen.shtml.

[4] Information about Key Certification was found on the Conference Board of Canada website: http://www.conferenceboard.ca/press/2000/Learning%20Solution%20Knowledge%20House.htm. The Key Certification program reportedly "provides learners with authentic opportunities to engage in collaborative work and problem solving; and hone information technology skills, including the Internet, with the ultimate goal of mastering the competencies that individuals and companies need today to remain competitive."

[5] For example, Smith (2001: 11) comments that salary levels are also affected by the relative effectiveness of trade unions.

[6] Authors used 1996 data from Statistics Canada and focused on full year, full time workers.

[7] This information about the International Baccalaureate Diploma Program was found on the IBO website: http://www.ibo.org/ibo2/en/programmes/prg_dip.cfm.

[8] This information was found on the IBO website: http://www.ibo.org/ibo2/en/about/about.cfm.

[9] Information specific to Alberta was provided by Alberta Learning staff.

[10] This information was found on the IBO website: http://www.ibo.org/ibo2/en/programmes/prg_dip_academic.cfm.

[11] This information was found on the College Board (Advanced Placement Program) website: http://www.collegeboard.org/ap/techman/chap1/index.html

[12] This information was found on the College Board website: http://www.collegeboard.org/ap/.

[13] This information was found on the College Board website: http://www.collegeboard.org/ap/students/benefits/valuable.html

[14] This information was found on the College Board website: http://www.collegeboard.org/ap/students/benefits/int_diploma.html

[15] Information was found on the following AP Canada website: http://www.ap.ca/general/ap.htm.

[16] The categories listed are: American Indian/Alaskan, Black/African-American, Chicano/Mexican American, Asian/Asian American, Puerto Rican, Other Hispanic, White, Other, and Not Stated.

[17] Population information can be found at the Statistics Canada website: http://www.statcan.ca/english/Pgdb/People/Population/demo28c.htm.

[18] Information was found on the following College Board, AP website: http://www.collegeboard.org/ap/selection.html.

[19] Information was found on the Dr. E. P. Scarlett High School website: http://www.cbe.ab.ca/b858/admin/administration.htm.

[20] This information was found on the Careers the Next Generation website: http://www.nextgen.org/foundation/successmodel.html.

[21] Ferrer and Riddell's (2001) study reported the number of full time, full year workers who held a trade certificate or diploma within a broader category. Upon request, Ana Ferrer provided the more specific information (Personal communication, October 2001).

[22] Integrated Occupational Programs (IOP) are offered to "at-risk" students aged 12.5 to 19 years old. Specific curriculum was designed in the late 1980s for students in grades 8 to 12.

[23] Since this report, Ontario has made a number of changes. Grade 9 curriculum has been destreamed and then restreamed. In 2001, students in grades 9 and 10 can choose from "academic, applied, and open" courses while students in grade 11 and 12 choose from university preparation, university/college preparation, college preparation, and workplace

preparation. See website: http://www.edu.gov.on.ca/eng/document/curricul/secondary/progplan/progplan.html#types.

[24] Nonstandard work forms include part-time, short-term, contract jobs, certain types of self-employment, and work within the temporary-help industry (Economic Council 1991: 71).

[25] I do not mean to suggest here that students achieving RAP, or Tech Prep never go on to university—some do. However, in Alberta, as in the United States, Tech Prep representatives have focused on providing articulation with colleges, while RAP channels students into the adult apprenticeship system.

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